

# Coral reef fishes of Gulf of Mannar, S.E of India

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The coral reef ecosystem supports a wide variety of flora and fauna and Gulf of Mannar is one of its kind, located in the south-east of India. It comprises 21 islands along the 140 km stretch between Tuticorin and Rameswaram. The map of Gulf of Mannar showing the 21 islands is given in Fig.1.

It is one of the Marine Biosphere Reserves in India and the extensive areas of coral reefs have a variety of food fishes and ornamental fishes. There is an organised fishery from the coral reef areas of Gulf of Mannar and the present study is a comprehensive work from the landings of fishery resources in this ecosystem. The reef fishes were collected from selected landing centres and studied qualitatively for the period from June, 2006 to November, 2010. The fishing methods practised at these centres were; trawling, gillnetting, fishing by traps and by hooks & lines. A total of 183 species belonging to 51 families were recorded. A family wise list of the reef fish species observed from Gulf of Mannar is given in Table 1.

**Table 1. Family wise list of coral reef fishes observed in Gulf of Mannar during 2006 - 2010**

## 1. Family Dasyatidae

1. *Neotrygon kuhlii*
2. *Pastinachus sephen*
3. *Himantura uarnak*

## 2. Family Myliobatidae

4. *Aetobatus narinari*
5. *Rhinoptera javanica*

## 3. Family Rhinobatidae

6. *Rhynchobatus djiddensis*

## 4. Family Acanthuridae

7. *Acanthurus gahhm*
8. *A. lineatus*
9. *A. mata*
10. *A. nigricauda*
11. *A. triostegus*
12. *A. xanthopterus*
13. *Zebbrasoma velifer*

## 5. Family Antennariidae

14. *Antennarius pictus*

## 6. Family Apogonidae

15. *Apogon aureus*

## 7. Family Aulostomidae

16. *Aulostomus chinensis*

## 8. Family Balistidae

17. *Balistoïdes viridescens*

## 18. *Odonus niger*

19. *Sufflamen fraenatum*

## 9. Family Belontiidae

20. *Strongylura leiura*

21. *Tylosurus crocodilus crocodilus*

## 10. Family Caesionidae

22. *Caesio caerulea*

23. *C. cuning*

24. *C. xanthonota*

25. *Pterocaesio chrysozona*

## 11. Family Carangidae

26. *Alectis indica*

27. *A. ciliaris*

28. *Alepos djedaba*

29. *Atule mate*

30. *Carangoides armatus*

31. *C. chrysofrys*

32. *C. coeruleopinnatus*

33. *C. hedlandensis*

34. *Caranx heberi*

35. *C. hippos*

36. *Gnathanodon speciosus*

37. *Megalaspis cordyla*

38. *Parastromateus niger*

39. *Scomberoides commersonianus*

40. *S. lysan*

41. *S. tala*

42. *S. tol*

43. *Selar crumenophthalmus*

44. *Selaroides leptolepis*

## 12. Family Chaetodontidae

45. *Chaetodon auriga*

46. *C. collar*

47. *C. decussatus*

48. *C. gardineri*

49. *C. lunula*

## 50. *C. octofasciatus*

51. *C. plebeius*

52. *C. trifascialis*

53. *C. trifasciatus*

54. *C. vagabundus*

55. *C. xanthocephalus*

56. *Heniochus acuminatus*

## 13. Family Centrocentridae

57. *Centrocentrus dorab*

## 14. Family Clupeidae

58. *Amblygaster sirm*

59. *Sardinella albella*

60. *S. gibbosa*

## 15. Family Dactylopteridae

61. *Dactyloptera orientalis*

## 16. Family Drepaneidae

62. *Drepane punctata*

## 17. Family Ehippidae

63. *Ehippus orbis*

64. *Platax teira*

## 18. Family Fistulariidae

65. *Fistularia petimba*

## 19. Family Haemulidae

66. *Diagramma picta*

67. *Plectorhinchus albovittatus*

68. *P. diagrammus*

69. *P. gaterinus*

70. *P. pictus*

71. *P. schotaf*

72. *Pomadasyus maculatus*

## 20. Family Holocentridae

73. *Myripristis murdjan*

74. *Sargocentron rubrum*

## 21. Family Labridae

75. *Cheilinus chlorourus*

Fig. 1. Map of Gulf of Mannar showing the Islands



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- 76. *C. undulatus*
- 77. *Coris formosa*
- 78. *Halichoeres hortulanus*
- 79. *H. nigrescens*
- 80. *H. zeylonicus*
- 81. *Hemigymnus melapterus*
- 82. *Thalassoma lunare*

**22. Family Latidae**

- 83. *Psammoperca waigiensis*
- 23. Family Lethrinidae
- 84. *Gymnocranius griseus*
- 85. *Lethrinus harak*
- 86. *L. lentjan*
- 87. *L. mahsena*
- 88. *L. microdon*
- 89. *L. miniatus*
- 90. *L. nebulosus*
- 91. *L. ornatus*
- 92. *L. variegatus*

**24. Family Lutjanidae**

- 93. *Aphareus rutilans*
- 94. *Aprion virescens*
- 95. *Lutjanus argentimaculatus*
- 96. *L. bengalensis*
- 97. *L. bohar*
- 98. *L. decussatus*
- 99. *L. fulviflamma*
- 100. *L. fulvus*
- 101. *L. gibbus*
- 102. *L. kasmira*
- 103. *L. lemniscatus*
- 104. *L. lutjanus*
- 105. *L. madras*
- 106. *L. quinquelineatus*
- 107. *L. rivulatus*
- 108. *L. russelli*
- 109. *L. vitta*
- 110. *Pinjalo pinjalo*

**25. Family Malacanthidae**

- 111. *Malacanthus latovittatus*

**26. Family Menidae**

- 112. *Mene maculata*

**27. Family Monacanthidae**

- 113. *Acreichthys tomentosus*
- 114. *Aluterus monoceros*

**28. Family Mugilidae**

- 115. *Valamugil seheli*

**29. Family Mullidae**

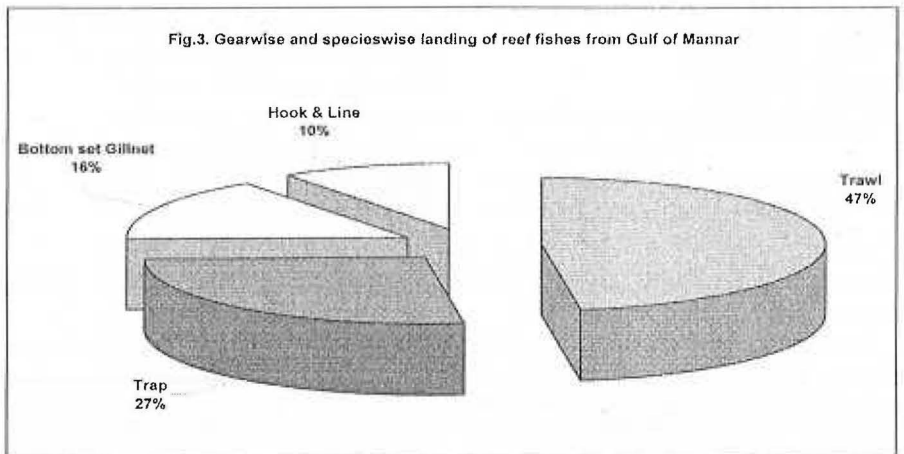
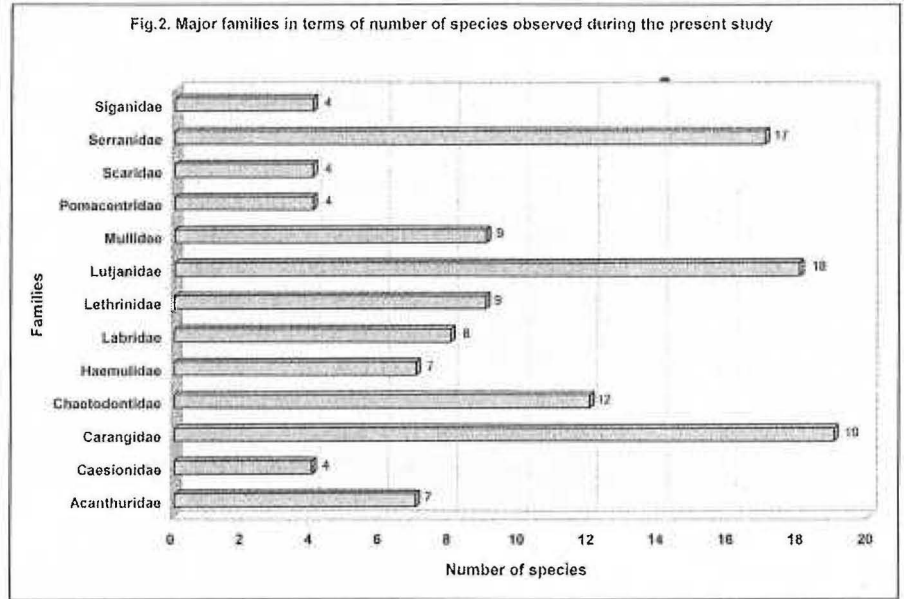
- 116. *Mulloidichthys flavolineatus*
- 117. *Parupeneus barberinus*
- 118. *P. forsskali*
- 119. *P. heptacanthus*
- 120. *P. indicus*
- 121. *P. macronemus*
- 122. *Upeneus moluccensis*
- 123. *U. tragula*
- 124. *U. vittatus*

**30. Family Muraenidae**

- 125. *Gymnothorax favagineus*
- 126. *G. punctatus*
- 127. *Uropterygius concolor*

**31. Family Nemipteridae**

- 128. *Nemipterus furcosus*



- 129. *Scolopsis bimaculata*
- 130. *S. vosmeri*

**32. Family Ostraciidae**

- 131. *Ostracion cubicus*
- 132. *Tetrosomus gibbosus*

**33. Family Pempheridae**

- 133. *Pempheris molucca*

**34. Family Platycephalidae**

- 134. *Cociella crocodilus*

**35. Family Plotosidae**

- 135. *Plotosus lineatus*

**36. Family Pomacanthidae**

- 136. *Apolemichthys xanthurus*
- 137. *Pomacanthus semicirculatus*

**37. Family Pomacentridae**

- 138. *Abudedefduf bengalensis*
- 139. *A. saxatilis*
- 140. *A. septemfasciatus*
- 141. *A. vaigiensis*

**38. Family Priacanthidae**

- 142. *Priacanthus hamrur*

**39. Family Rachycentridae**

- 143. *Rachycentron canadum*

**40. Family Scaridae**

- 144. *Bolbometopon muricatum*

- 145. *Leptoscarus vaigiensis*

- 146. *Scarus ghobban*

- 147. *S. psittacus*

**41. Family Scorpaenidae**

- 148. *Pterois russelli*

- 149. *Rhinopias eschmeyerii*

- 150. *Scorpaenopsis gibbosa*

**42. Family Serranidae**

- 151. *Cephalopholis argus*

- 152. *C. boenak*

- 153. *C. formosa*

- 154. *C. sonnerati*

- 155. *Epinephelus chlorostigma*

- 156. *E. coeruleopunctatus*

- 157. *E. corallicola*

- 158. *E. fasciatus*

- 159. *E. flavocaeruleus*

- 160. *E. longispinis*

- 161. *E. maculatus*

- 162. *E. malabaricus*

- 163. *E. merra*

- 164. *E. polyphekadion*

- 165. *E. tauvina*

- 166. *E. undulosus*

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167. *Pogonoperca ocellata*

**43. Family Siganidae**

168. *Siganus canaliculatus*

169. *S. javus*

170. *S. lineatus*

171. *S. spinus*

**44. Family Sillaginidae**

172. *Sillago sihama*

**45. Family Soleidae**

173. *Pardachirus pavoninus*

**46. Family Sphyracidae**

174. *Sphyracna barracuda*

175. *S. flavicauda*

176. *S. jello*

**47. Family Synodontidae**

177. *Saurida tumbil*

178. *Trachinocephalus myops*

**48. Family Tetraodontidae**

179. *Arothron hispidus*

180. *A. stellatus*

**49. Family Tetraodontidae**

181. *Ablabys binotatus*

**50. Family Terapontidae**

182. *Terapon theraps*

**51. Family Zanclidae**

183. *Zanclus cornutus*

namely, *Chaetodon plebeius*, *C. gardineri*, *Rhinopias eschmeyeri*, *Ablabys binotatus*, *Plectorhinchus gaterinus*, *Parupeneus forsskali* and *Pogonoperca ocellata* are new records from India as per Fish Base. The present study also confirms identification of seven species, viz. *Acanthurus gahhm*, *Caranx hippos*, *Plectorhinchus diagrammus*, *Lethrinus miniatus*, *Pempheris molucca*, *Scorpaenopsis gibbosa* and *Epinephelus corallicola*, occurrence of which in India is questionable as per FishBase.

Of the 183 species observed, the major families in terms of number of species are depicted in Fig.2; those families having less than 4 species are not shown in this figure.

From the graph it is clear that the families Carangidae, Lutjanidae and Serranidae dominated considerably with 19, 18 and 17 species respectively. The number of species of reef fishes landed by different fishing gears employed in Gulf of Mannar is depicted in Fig.3.

The trawl landings constitute the maximum number with 144 species, followed by trap with 81 species, bottom

set gillnet with 47 species; the least number of 29 species being recorded by hooks & lines.

As per IUCN Red List, the status is not evaluated with respect to most of the fishes observed during the present study. Among those evaluated, *Cheilinus undulatus* is an *Endangered species (EN)*; *Bolbometopon muricatum*, *Himantura uarnak*, *Rhinoptera javanica* and *Rhynchobatus djiddensis* are *Vulnerable species (VU)*; *Epinephelus malabaricus*, *E. polyphekadion* and *Aetobatus narinari* are *Near Threatened species (NT)*; *Neotrygon kuhlii*, *Pastinachus sephen*, *Epinephelus corallicola*, *E. tauvina* and *E. undulosus* are grouped as *Data Deficient (DD)* and 11 species viz. *Cephalopholis argus*, *C. boenak*, *C. formosa*, *C. sonnerati*, *Epinephelus chlorostigma*, *E. coeruleopunctatus*, *E. fasciatus*, *E. flavocaeruleus*, *E. longispinis*, *E. maculatus* and *E. merra* are considered as *Least Concern species (LC)*. Hence, it is necessary to take proper conservation measures in order to ensure sustainable utilisation, avoiding likely depletion of the endangered and vulnerable species and degradation of the fragile ecosystem. ☺